

Mammoth Creek
Forest Stewardship Plan



Appendix O - Bruce Bonebrake Interview

*Interview with Bruce Bonebrake,
Regional Habitat Manager, Division of Wildlife Resources*

*Conducted by Clint Reese,
Area Forester, Division of Forestry, Fire and State Lands*

April 26, 2002

Clint Reese (CR): Thanks for meeting with me Bruce. I am writing a Forest Stewardship Plan for homeowners at Mammoth Creek, and I would like your input. Forest Stewardship Plans are similar to a national forest plan, only it's for private landowners. The plan will blend good forestry with what landowners would like to accomplish - it's supposed to be a holistic plan. So what I would like to get from you is anything that should be of concern to these landowners or things that you would like to see them do for the sake of fish and wildlife, or to increase wildlife habitat. Things like that are what we're after to this forest stewardship plan. By doing that landowners can make informed decisions. In addition, many landowners want to encourage wildlife on their property, and your recommendations can help them accomplish those goals. And of course, this interview is also an appropriate place for you to inform landowners at Mammoth Creek about potential problems regarding wildlife, or future concerns that you would like to pass along to them.

Bruce Bonebrake (BB): The obvious problem in considering wildlife habitat management at Mammoth Creek is that you have many landowners, who own only small lots. This can be problematic because we typically do habitat improvements on larger tracts of property. However, one of the biggest concerns at Mammoth Creek is the riparian zone (wet areas along Mammoth Creek). This area is critical to fish and wildlife populations for both food and habitat. Retaining woody vegetation (trees and shrubs) along the banks is important.

CR: So landowners shouldn't remove that?

BB: Right, I would just maintain a strip along the stream where ever you can.

CR: Could you enhance that by planting certain species? Are there more species that landowners could plant and if so what are they? What would you encourage them to do?

BB: Willow is probably the most typical thing that we look at planting in that area. At that elevation you could also look at things like Wood's Rose, maybe even River Birch up there. I don't know if it would grow up that high or not. Red-osier dogwood is also a very good plant for this zone.

CR: What about Coyote Willow?

BB: It's more of a brushy willow than the others but it's still a good one to plant. The critical thing is the root structure advantages it gives in pulling the bank together.

CR: How about Fremont cottonwood or Narrowleaf cottonwood?

BB: It's pretty high elevation for Fremont, but Narrowleaf might grow and would be a good species. Narrowleaf cottonwood is a great plant. Besides maintaining the bank and decreasing erosion, trees provide overhead cover to the stream and shade it, which keep that waters cool for fish populations. Any lower shrubs that would provide overhanging vegetation to the stream is a good idea. Trout will key in to the places that they have some overhead cover in addition to pools. Any kind of vegetation that you can get to overhang is really a plus for fish.

CR: What kind of fish would you find in Mammoth Creek?

BB: Primarily Brook Trout and a few Cutthroat Trout. We stock Rainbow trout in some reaches of Mammoth Creek, but have decreased our stocking up in that area. It's a statewide policy where we've got reproducing populations of wild fish, we've decreased our hatchery stocking. But we've still stocked a few in there because of the demand from the cabin owners. As you move on down you get more Brown Trout lower in the drainage. But there could be occasionally a few Brown Trout up higher too. As far as a wild fishery is concerned, it's a Brook and Cutthroat trout fishery.

CR: What other kinds of aquatic wildlife would find living in Mammoth Creek that people should know about and might be interested in.

MO: Macro Invertebrates, bugs, and other organisms that fish eat.

CR: Any crayfish?

BB: No. Of course there's a lot of bird species associated with a riparian area too that would be a real value. Again, anything you could do to maintain or improve that riparian area would benefit a lot of wildlife species. And by riparian we're talking about 100-200 feet from the stream or even 300 feet in some cases. I've heard it said in Utah, 90% of the bird species use riparian corridors for at least part of their life functions, so they are important. It's a real important zone for them because it's a lot greener than other zones because of the water. It has the water of course and it tends to have a lot better structural plants because it has shrubs and tree size plants together. So riparian zones are important corridors from a terrestrial stand point.

CR: Let's talk about deer habitat for a moment.

BB: Mammoth Creek and surrounding areas are high priority deer summer range. High priority deer summer range isn't critical for anything from our stand point because as you can see there's tons of high priority deer summer range all around this part of southern Utah. That's why it's not critical. It becomes critical habitat when we are looking at deer winter range. So realistically, providing more summer habitat for deer in Mammoth Creek doesn't really do us much because it's not a bottleneck in the habitat - there is plenty already.

CR: What do you mean by bottleneck?

BB: When you look at habitat if you want to do improvements for wildlife of any kind, what you look for is where the bottleneck is. That's what you want to work on. A bottleneck is a limiting factor. The limiting factor here is winter range because you have a limited amount - most places at this elevation deer can't use in the winter time for forage because the snow gets too deep. Mammoth Creek is way too high elevation for deer to winter in and so it's not a critical area.

CR: What about Elk?

BB: Elk are pretty much the same as the deer. There is a lot of high priority summer range. We don't have any calving areas this close to cabins. So basically areas around Mammoth Creek are just high priority summer range. The time period when the elk are there is usually from the first of June to the end of August.

CR: Why does the Division of Wildlife Resources call it high priority then if there is so much of it?

BB: Because it's important, they use it as a factor, but it's not the limiting factor. That's the difference between high priority and critical. There's limited value like out in the west desert where you've got a deer and the next deer may be a couple of miles away. High priority means it has a fair population of animals there but no one place is critical to them.

CR: Is there such a thing as low priority summer habitat.

BB: Yes, that would be habitat that is of limited value for that species. There's nothing critical there. Now what could be critical is if you happen to come across something like a calving area. The reason it's a calving area is because there are no roads in there, it's a very secluded area, it's away from busy travel areas, and it's well forested. And that's the kind of areas Elk like to go into because when they have their calves they don't want to be disturbed. Especially for the first two weeks of life when the calf needs to be feeding off of it's mom and not being disturbed. So you want to avoid any type of disturbance in these areas.

CR: How about turkeys?

BB: It's high priority summer range for Merriams Turkey. Rio Grande turkeys wouldn't go that high. It's too high elevation. Merriams are also only up there during the summer and fall. This time of year they just might barely be getting into there because they are migratory just like the mule deer they'll move during the winter time.

CR: What about other birds?

BB: This map might be a little more revealing. It's got blue grouse and band tail pigeons. But I'm not sure there are any band tail pigeons at Mammoth Creek. It's basically showing this as summer blue grouse year or substantial year long blue grouse habitat. Pigeons like stream corridors so that would be an important area to them from that stand point. As far as doing anything for blue grouse you probably aren't going to do anything to enhance it. I don't know what kind of vegetation and forestry practice you had in mind here but if you were going to do any small clear cuts or enhance the aspen that's in there, the aspen groves, that would probably all be a big plus for blue grouse.

CR: The vegetation is mostly Ponderosa Pine. There are smaller amounts of Blue Spruce, White fir, a little Englemann Spruce, and some Aspen that can be found along the riparian zones for the most part. By far and away the majority of trees are Ponderosa. I am going to recommend thinnings to reduce the likelihood of beetle outbreaks and to reduce fire danger.

BB: Large ponderosa pine is important to Turkeys for roost sites. And they like ponderosa along streams. They would have some importance for roost sites and also for cavity nesters. And usually Ponderosa when it's not on a solid stand is good habitat. I really encourage these landowners to enhance the ponderosa any way they can.

CR: One thing the land owners are concerned about and that we are concerned about too is that the forest is too thick and unhealthy. And so what I'm going to recommend to these land owners is they consider sanitizing their stands which entails removing defected trees and thinning out the forest a bit.

BB: I would recommend they not cut the really large ponderosa trees. These big trees have nice horizontal branches that the birds like to roost in. The larger the better, from that stand point. That's probably not the ones you'd be cutting out anyway.

CR: No, I think the land owners want to retain most of those anyway.

BB: And that's good because those are the ones that provide roost trees. I'm also thinking about the cavity roosters like bluebirds and woodpeckers. Anything that provides a good nest site for cavity nesters is going to be important. Depending on what the landowners want to do they might want to put up bird boxes. There is an opportunity there if they want to do something to enhance habitat for cavity nesting birds. There aren't a lot of good cavities trees on Cedar Mountain. That's why we try to maintain what old ones we have. And if they want to build some boxes that would be fine for there species. I have the specs for those boxes if landowners want them. That might be something they would consider.

CR: We could probably put those in the stewardship plan.

BB: That would be a great place for it.

CR: On the band tail pigeons, you said that is also substantial year long habitat.

BB: They're probably in that area but their populations are pretty low. There's nothing really to do except retain those large ponderosa's are real important for bandtails. They use those for roost trees and for perches. Same goes for raptors.

CR: Why is blue grouse habitat good at Mammoth Creek?

BB: The water, the meadow areas for raising their young. The grassy areas, grassy meadows. They almost always nest within a quarter mile of water. Turkeys do the same thing. That's where they lead their young as soon as they hatched because they are precocial so they get up and run as soon as their born. The hens take them to a meadow where there are lots of insects. And it's usually a wet meadow by a stream. So those kind of forest openings and meadows are important to those critters.

CR: Are there any Sage Grouse up there?

BB: No, You are completely out of the Sage Grouse habitat. Mammoth Creek has too many forested areas.

CR: How about Ruffed Grouse.

BB: Ruffed Grouse aren't found this far south on the forest.

CR: Why is Mammoth Creek good Merriams turkey habitat?

BB: Ponderosa Pine is the key feature of a Merriams turkey's habitat, that's why it's extremely good habitat. The other thing that's important to the turkeys of course is the water, the stream area. The Rio Grande turkeys don't tend to migrate up the mountain or go that high in elevation where the Merriams will. Their primary roost tree is the Ponderosa Pine. The reason it's important is that Ponderosa tends to have large horizontal branches with windows (openings in the crown of the tree). So if you want to manage for Merriams turkey, you need to manage ponderosa pine trees.

The Rio Grande turkeys are a lot different than our native Merriams in that they can roost in shrubs and brushy stuff. They are lot more agile flyers, a lot more leggy bird. They can adapt to that better. On the flip side the Merriam are a lot hardier bird when it comes to cold weather. They are more compact and built to tolerate cold. That's one of the reasons the Merriams are able to go up and down the mountain, in colder elevations.

CR: Are there any doves at Mammoth Creek?

BB: Yes, there would be doves and dove nesting all along that area.

CR: What type of dove?

BB: Morning Dove.

CR: Is it good habitat for Morning Dove?

BB: Yes, there would be good Morning Dove habitat up there. And again it would be summer habitat.

CR: And why would it be good habitat for them?

BB: Pine trees are their favorite trees to nest in. Really good Dove nesting habitat would probably be found at lower elevations around green crop fields, but there are populations that stay at high elevations too, but those aren't really dense populations.

CR: How about Ducks?

BB: That stream is so small that I doubt that you would have a lot of duck. The potential for ducks would be some mallards nesting in some of the slower reaches or smaller ponds. Maybe green wing teal. That would be the most common species you would see at Mammoth Creek.

CR: Do you think it would be good habitat?.

BB: Anyplace there is a pond up at that elevation or big enough area for a duck to live on would be good habitat. They like to nest at that elevation if they can find a secluded pond where they are not disturbed.

CR: Ducks will migrate, so is pretty much just summer habitat.

BB: Yes just summer habitat for them because when it freezes they pretty much have to move on.

CR: You don't rate any these birds like critical winter ranges?

BB: Not up there, all the birds we've talked about migrate out in the winter time.

CR: How about mountain blue bird? Is there good habitat for them?

BB: Good habitat for them means good tree cavities. You have good cavities any time you have Ponderosa Pine and so that's the majority of tree they use for cavities. They'll use aspen too if it's hollow.

CR: And they migrate as well?

BB: Yeah, in the spring, summer, and fall, but not the winter.

CR: How about Canadian Geese?

BB: There would be Canadian Geese on Panguitch Lake, I've seen them there quite often, but none of the other waters are big enough. There would definitely be humming birds at Mammoth Creek.

CR: What type?

BB: Rufus Humming Birds at that elevation.

CR: Would it be good habitat for them?

BB: Yes, it would be excellent habitat for them. Especially, any of the meadows that have a lot of nectar bearing plants such as paint brushes, and blue bells that grow along the streams. There are a lot of species that they gather nectar out of especially red and blue flowers.

CR: Where do they live, the rufus humming birds, do they have nests?

BB: Streams are important for them. This being a stream corridor would be an important area for them. They'll build their nests on a horizontal branch right on top. They build it out of spider web so it takes them a long time to make it. Spider Web and moss and just small pieces of vegetation. They just kind of glue it all together with spider web and it will be a small cup shaped nest sitting

usually on a horizontal branch. Sometimes they like to get in over a overhang on a building like where there is a thick wire going out or structure where they can nest on top of. Other humming birds that might be up there are broad tails and the black chin but the rufus would be the most common at that elevation.

CR: Is it good for brood habitat for Hummingbirds as well?

BB: Certainly

CR: And they migrate as well so summer habitat would be pretty much what you would find?

BB: They move out as soon as the mountain dries out and they don't have the nectar bearing plants.

CR: How about woodpeckers?

BB: Super habitat for woodpeckers.

CR: What kind of wood pecker?

BB: Common Flicker, Three-toed, Downy, Hairy, the Yellow Bellied sap sucker. That would probably be the most common ones you would find up there.

CR: Why is it such good habitat?

BB: Because of the trees, a lot of trees are dead or dying especially the spruce and fir on Cedar Mountain, because of the insect damage. The pine beetles and their larvae are important food sources for woodpeckers.

CR: What about brood habitat?

BB: Sure, it would be excellent for that.

CR: Because of the amount of feed and insects?

BB: All of those species winter there too. So it would be year long habitat.

CR: Is it critical habitat there?

BB: It would be really important, but I don't know if you would be able to call it critical or not.

CR: What kind of owls are up there?

BB: Great Horned Owls, Flammulated Owls, Pigmy Owls, Saw-whet Owls and Screech Owls could be found up that high.

CR: Barn Owls?

BB: I don't know that Barn Owls would be there, they are critters that like open fields and open areas. They could be found there but I doubt that you would see many.

CR: Would it be good habitat for all of those owl species that you mentioned?

BB: Yeah, Again most of those species are tied to Ponderosa Pines are real important because of the cavities it creates for nesting and perches. Several of them such as the saw-whet owl and the flammulated owl like dense brush areas like you would find down by a stream. That's important to those guys.

CR: For finding food or for getting away from different critters?

BB: For their diurnal roost sites

CR: How about Osprey? Are they up there?

BB: Again they have been seen around Panguitch Lake but they are a bird that requires some pretty big waters. They might feed along the streams along the open areas. We're getting more and more of those every day and they're starting to show up in more places every day.

CR: It's probably not great habitat because it's not big open water type situations, Right?

BB: Probably not, they tend to like lakes and big open waters.

CR: So they wouldn't be there year round because it would be frozen in the winter?

BB: Yes

CR: It probably wouldn't be a good brood area then?

BB: It could be. That is within flight range of Panguitch Lake.

CR: Is another important factor that Osprey feed on fish in Mammoth Creek?

BB: Right

CR: How about the Northern Goshawk?

BB: Yeah, that is all important goshawk habitat. Again because of the Ponderosa Pine.

CR: Okay, How about the fish, do goshawk's eat fish?

BB: No they aren't fish eaters. The things that they eat, Blue Grouse, red squirrels, some ground squirrels, small birds like a Stellar Jay's and Clark's Nut cracker and blue birds - anything like that. They are forest predators that feed on what's under the canopy.

CR: The more of that stuff the better it's going to be for this goshawk?

BB: Yes, like I said, the Ponderosa Pine seems to be an important tree to them for nesting.

CR: So it would be a good brood area as well?

BB: Yes,

CR: Would it be year long?

BB: Yes they stay there through the winter

CR: What kind of hawks would you find up there?

BB: Red tail hawks. Your forest hawks are what you would expect to find under the canopies. You already mentioned one, the goshawk. There's the Sharp-shinned hawk and the Cooper's hawk. Those are important forest hawks that you would definitely see there. Red tailed hawks would tend to stick more toward the openings but they would be found there. Probably an important component.

CR: So those would be good habitat for those three that you mentioned?

BB: Yes.

CR: Why, the open areas?

BB: The accipiters, which are the Goshawk, the Cooper's hawk, the Sharp-shinned hawk, are forest hawks. They are hawks that hunt under the forest canopy and this is a pretty heavily forested area. So those are all important species for that. Those are there year round. The Sharp-shinned are really good predators on sparrows and the small finches. All three of those are good predators. The redtailed hawk would feed on a little bit larger stuff. They feed on mammals like rabbits and ground squirrels.

CR: Okay, How about Falcons in Mammoth Creek?

BB: I don't know that there are many big cliffs that would be a very good roost area, but it would certainly be within the hunting range of Peregrine falcons. It's pretty forested so I wouldn't expect to find any prairie falcons but the falcon you might see quite often would be Kestrels and Merlins and they are both species you would find in forests. Especially the Merlin.

CR: For any of those it would be good habitat?

BB: For the Peregrine it would be really good feeding habitat. I don't know if it would be good brooding or nesting habitat. That would have to be in cliffs. We have them in cliff areas like Cedar Canyon and so forth. And they do forage for quite a ways and they like to forage around water.

CR: Is that mainly the summer?

BB: Yes.

CR: In the summer mainly and for the same reasons?

BB: Yes.

CR: For the forage and nesting in Ponderosa?

BB: That's why I don't like to see Ponderosa cut unless it's at a sustainable level or unless we are trying to sanitize the stand so we can create bigger trees. Large Ponderosa are extremely important to our wildlife.

CR: There are some big Ponderosa's at Mammoth, but in the absense of having big trees, I guess to increase a lot of these bird species you would be looking at nest boxes?

BB: For a lot of the cavity nesters yes. Even the kestrel you can build boxes that they would accept, but you have to get them at least 20 feet in the air, so a lot of people don't like to build those.

CR: Because you got to climb up the tree to hang it?

BB: Yeah. They are high elevation nesters.

CR: How about Golden Eagles at Mammoth Creek?

BB: Golden Eagles probably feed through the area. I don't have any record of nests through that area but it would definitely be a feeding zone. The same with Bald Eagles, that winter around Pangnitch Lake, again they like big waters and open areas.

CR: So you would probably see them flying across but you wouldn't see them sitting in trees at Mammoth?

BB: Depends on if you've got some open fields they may show up there in the winter. But you see we only have Bald Eagles here from November through the middle of March and so the area would be snow covered and they probably wouldn't feed up there a lot.

CR: Can you think of any other birds that would be high-interest that we should talk about?

BB: You mentioned blue birds, Western bluebirds are found up there. Nut hatches.

CR: Is it good habitat for Western bluebirds?

BB: Yeah, excellent. Again Ponderosa is a key species for them.

CR: For nesting?

BB: Cavity nesters, they are a key cavity nester.

CR: Year long or summer?

BB: Summer. The White breasted Nut Hatch can be found up there. It has the same type of characteristics. Tree Swallow would also be in that area. It is a cavity nester too.

CR: Good habitat?

BB: All those cavity nesters use zones along streams because there are lots of insects.

CR: How about Chipmunks? I imagine there is quite a few.

BB: There are a lot chipmunks up there. There are several species. I don't know which ones they are off the top of my head.

CR: So it would be good habitat for both chipmunks and squirrels?

BB: Red squirrels for sure. That's the only true tree squirrel you have up there.

CR: Why is Mammoth Creek good habitat for them?

BB: Because it has big trees that they like pine cones for their food.

CR: What kinds of tree do they like, just Ponderosa?

BB: No, they like Spruce too. Spruce is real important to them so are fir trees.

CR: Blue or Engelmann more so?

BB: Blue, Engelmann, so are Douglas-fir even white fir. They eat the seed off of all those cones. Limber pine is one they like. All those species really. All the species of conifers they eat the seeds out of that's their main food.

CR: In the dense areas, they squirrel cache their stuff?

BB: Yeah, you've probably seen them. I know you've seen middens, that's what they call those.

CR: We sometimes raid those and grab some of the seed out to take it up to our nursery to grow more trees. Would the chipmunk and the red squirrel would be similar in what they require and what they like?

BB: Basically the conifer trees.

CR: How about Marmots or Rock Chucks?

BB: Marmots...you'd find those in the openings. They are definitely in the area. They are there year long but they hibernate in the winter.

CR: Would you say it's good or not good habitat?

BB: It's good marmot habitat especially in that lava rock. They like that lava rock.

CR: I've seen them quite a bit in there come to think of it. Why do they like that? Is it just to hide?

BB: Yeah, for the hiding cover, the dens it creates. And they like the meadow areas. They feed on grasses and forbs. Meadow areas is what you need for those.

CR: How about muskrats?

BB: Yeah, if you've got a stream, you've got muskrats. It's a higher elevation stream so it wouldn't be high populations of muskrats but I know they are in Mammoth Creek. I've seen them especially where it goes through the meadows.

CR: What do they like to feed on?

BB: They like to feed on roots, sedges, roots, grasses and tubers. They like cattails but I don't know that there are many cattails up there. They'll use them if they have them but they aren't critical. They aren't something they have to have.

CR: So are they there all year long but they hibernate?

BB: They don't do a true hibernation they semi-hibernate in the winter. They'll be inactive for a couple weeks at a time.

CR: Porcupine. Would that be great habitat for them because of the Ponderosa?

BB: Because of all the Pine and the cottonwoods that you mentioned. They usually hibernate up in the tree branches. They'll stay right there in the tree. Give them a thick area of tree branches they'll stay there through out a storm.

CR: So they're active all year long?

BB: Yeah, they'll get in a couple of trees and stay there during cold weather. You've probably seen where they've chewed on the branches. That's what they are doing.

CR: How about Cottontail rabbits?

BB: Yeah, there's Cottontail. Mountain Cottontail is the one specifically.

CR: Is it good habitat for them?

BB: It's fair habitat. They tend to like big sagebrush areas and there's not a lot up there. They'd be in fairly low populations but they'd be there.

CR: How about Snowshoe hares?

BB: Yeah, there's potential for them there but I don't know if I've seen them up there

CR: Kind of fair habitat again.

BB: Yeah, they like stream vegetation and thick brush areas.

CR: How about Beaver?

BB: Yes, good habitat. Again you're higher up at Mammoth Creek. The lower down you get the better you'd be.

CR: Because the water flattens out a little more?

BB: Right, they can build a dam. For Beaver to over winter they have to do one of two things. They have to build a big enough dam that they can be build a hut and swim out underneath the ice and get their cache that they put under water during the fall. Or it has to be a big enough river or stream that they can build a bank hole. Again, that they can come in and out of. Because they don't hibernate in the winter. Not a true hibernator. They are active all winter, coming in and out of those holes. And if they don't have enough water built up, it freezes down and they can't get in and out. That's why they build a dam.

CR: That makes sense. I would think they would be really hard on any Cottonwoods that would be around there because Mammoth Creek is not all that big.

BB: Oh they'll eat them but the thing about Beaver over all, by their pruning and carrying sticks around that get caught in the mud and the sediment. They plant a lot more than they ever destroy. They are the best riparian managers there are.

CR: Really, how about Coyotes?

BB: Yeah, there are plenty of coyotes up there. It's not as good as some areas because of the high elevation but there are some Coyotes that stay up there year long.

CR: And why do you think it would be good. Just with all the critters running around they eat?

BB: Yeah, all the food stores from small mammals and small birds.

CR: How about Red Fox?

BB: No, I don't know if I've ever seen any that high. They are usually in the farm country and more open country. Bobcat could be up there. Again, they like more open country but they would be there, but probably not great numbers.

CR: How about Lions?

BB: Yeah, that's Mountain Lion country.

CR: Would it be good habitat for Lions?

BB: The mountain lions would use it more when the deer are there in the spring, summer, and fall but not in the winter.

CR: How about Black Bear?

BB: There's Black Bear up in that area, sure.

CR: What do you think about the habitat?

BB: Cedar Mountain is good habitat for bear but we have a hard time maintaining black bear because of the land owners and the campers and the livestock. As soon as they come in to feed in back yards or camp grounds they end up getting killed by our Officers because we don't have any place to move them too.

CR: Mountain Goats? Pronghorn?

BB: No.

CR: Any other mammals you can think of?

BB: No, not off the top of my head.

CR: On trout species, which species are most abundant?

BB: Brook is the best. The upper part. We stock rainbow and there's brown in all the reaches.

CR: Why would this be such good habitat for Brook trout?

BB: Good water quality and good stream bank structure. That's a pretty protected over most of that too. Even where you've had live stock use, the banks haven't been harmed much.

CR: Can you think of any other fish that these land owners need to be aware of?

BB: The lower reaches of Mammoth Creek have Sculpin in it. Sculpin is the only other one I can think of. There might be Speckled Dace.

CR: Bruce, let me ask you, what species are most abundant on this property and why?

BB: Cavity nesting birds because of the large trees. And riparian obligate birds and again because of the (birds and mammals) because of the good riparian zone along the corridor.

CR: Which species on this property is the Utah Division of Wildlife Resources most concerned about?

BB: Probably the Merriams turkey from my stand point. The fish species for sure. The brook trout, browns and rainbow. It's a really important fishing stream. There's probably some potential for southwest willow fly-catcher up in that area, but I don't know if we've ever surveyed that for them or not. Deer and Elk use it quite a bit so even though it's summer range it's still important to them. The cavity nesters, the Goshawk would be a Biggie.

CR: Of these species that we've talked about, what can landowners in Mammoth Creek do if they wanted to help out those species?

BB: Plantings and protecting the riparian zone along the stream. Anything they can do, shrubs and trees along there. Things like willows and the narrow leaf cottonwood, Red-osier dogwood, River birch. That kind of thing would go a long ways to protecting the riparian obligate species and the fish species that are in the stream.

CR: You've kind of answered this, but what can landowners do to improve wildlife habitat for the greatest number of species on this property if they want to?

BB: The best improvement would be what we've just talked about maintaining the riparian zone. Another thing would be maintaining large trees that have potential for roost and cavity nests. Like the large Ponderosa that are so important for roost trees for Merriams turkey. Important for roost and cavity nesting for owls like screech owls and that kind of thing. And again like song birds like bluebirds and woodpeckers that really need those cavities for a proper nest site.

CR: One thing that's going to be somewhat of a conflict that I see here is it has been quite developed at Mammoth Creek and there's a lot of cabins. One of things that I'm going to recommend is a sanitation thinning which would normally take out quite a bit of defect in the forest stand. We take multiple top trees and rotted trees and stuff like that. So obviously if there are a lot trees like that around improvements and people you've got to get rid of them for safety sake. It sounds like what you are saying is retain as much of that where you can where people aren't going to congregate and where it would be safe to leave something that might be a high hazard for falling and things like that because it's going to have to be rotten to be a nice cavity nesting tree. So if there are opportunities leave as much of that stuff as you can, but provide nesting boxes as well?

BB: Nesting boxes are actually something I was going to mention. Another thing you foresters always look to get rid of is dwarf mistletoe. Mistletoe is actually a pretty good wildlife plant. The fruits on mistletoe are utilized by a wide array of cavity nesting and other song birds and there are some species of birds because of the density that mistletoe makes it provides a place where they can nest in.

CR: Nesting in the witches brooms?.

BB: Yes, from a wildlife stand point and even for small mammals like red squirrels strictly looking at a wildlife value, mistletoe can be good thing and it also provides cavity nests. It will start hollowing out the tree. Like some of the fungus that get inside the branches. Like the blue stain.

CR: Well this is another conflict I guess, but as far as I'm concerned you can never eradicate mistletoe. You can keep it in check and that's often what I recommend to landowners because it can really be a problem if every single tree regenerating has mistletoe in it. Sometimes your stand is just horribly infested with mistletoe and you don't have a healthy forest. That's when the bugs come in and raise havoc. Let me ask you a few more. What would you consider is the most important thing that land owners should keep in mind from a wildlife perspective when managing their property?

BB: I think that protecting that riparian zone along the stream because the stream is the most important wildlife component in that area. Add one thing to that: protecting their large trees.

CR: Is there any concerns these landowners should be aware of when considering wildlife?

BB: I guess protecting the large trees. That's an important thing. Trying to keep their buildings and activities out of the riparian area away from streams. The more they do that, the more habitat they are going to save.

CR: Some of the treatments that we've already talked about that I am going to recommend are doing some sanitation work. You know we want to reduce some fuel loading and ladder fuels and things like that. So thinning is what we are basically talking about. So how would these treatments affect wildlife?

BB: Well again most of the forest species like the density of the forest. They like the areas that are somewhat dense for hiding cover and security cover. And the more you open that up, the more you take away.

CR: Do you think there are enough areas on the forest that it's not going to be that big of a concern for these landowners?

BB: That's probably true, but every time you open it up you might favor one species over another. An example is one that likes more open woods like a Merriams turkey but you probably take away the values from another species that likes really dense woods like a Saw-Whet owl. So it's a balancing act.

CR: I see. Another question is there are a lot of cabins there. A lot of folks come in on the weekends and things like that, a recreational subdivision type setting. What recommendations would you have to people from a wildlife standpoint with that being the case? What types of things would you recommend as a habitat biologist for land owners?

BB: Protect that stream and riparian corridor. Don't run four wheelers up and down the stream or on the banks of the stream that you know harm the riparian vegetation.

CR: Are there any certain types of activities that these landowners might want to do that would be detrimental to wildlife?

BB: Yeah riding four wheelers around is one of the biggest damages we have right now on the national forest. So is unregulated 4x4 use. People get out there and it's fun to ride those up and down hills and stuff but sometimes don't think about what's it doing to plant life and the species that really depend on those plants. Plus it opens up areas, security areas, that we talked about, elk calving and deer fawning areas. Those areas are where they are in the forest because of the security where you can't get a four wheeler or you don't get a lot of activity where people drive in there. That's why they select areas to be away from people and activity in general to have their young.

CR: So that proximity of wildlife to cabins and people would probably limit quite a bit of wildlife activity?

BB: There's a lot of things you would probably never see at Mammoth Creek. You'd probably never see Elk for instance calving there. They select a more secure site for that.

CR: Are there any forest treatments that should be avoided in this area?

BB: Yeah, cutting all the ponderosa down.

CR: Okay. We're not going to do that. We are going to recommend thinning that from a fire stand point.

BB: I don't see thinning as bad. It's nice if you could leave some slash piles but you probably want to recommend burning those.

CR: The tough thing is again you've got so many people around there you don't want a big build up of fuel around there, so yes we will recommend getting rid of the slash piles.

BB: Wildlife like brush piles but it's a trade off.

CR: Yeah that's often the case. Well Bruce thanks very much. I appreciate it.

BB: Thanks, Anytime.